Patent Claims

1. Network switching unit (IGATE) for a communication system (PBX),
-- comprising at least one data network line unit (LAN-AE) comprising a data network interface (LANS) for the connection to a local data network (LAN),
-- comprising a signalling unit (SE) for the connection to a control unit (STE) of the communication system (PBX),
-- comprising at least one PCM line unit (PCM-AE) comprising a bidirectional time-division multiplex-oriented PCM interface (PCMS) for the connection to a switching network module (KN) of the communication system (PBX), that
    -- comprises an assembly switching network module (BG-KN) for switching payload connections conducted over the PCM interface (PCMS),
    -- a DTMF recognition unit (DTMF) for the identification and analysis of control information received via the payload connections in the form of DTMF signals,
-- comprising a conversion unit (MH) that is connected to the data network line unit (LAN-AE), to the signalling unit (SE) and to the PCM line unit (PCM-AE), and that
    -- comprises an evaluation unit (BW-R) for routing information,
    -- comprises a switching unit (VM-R) for the communication of data packets dependent on the evaluation result, and
    -- comprises a conversion unit (KV-R) for the protocol-suited conversion of the data packets.

2. Arrangement according to claim 1, characterized in that the network switching unit (IGATE) is fashioned as subscriber line assembly of the ~~communication system (PBX).~~

3. Arrangement according to claim 1 or 2, characterized in that the switching unit (VM-R) comprises means for the communication of the data packets

-- between internal communication terminal devices (KE3, KE$) connected to the communication system (PBX) and the local network (LAN), and

-- between external terminal devices that are connected to further interconnected communication systems (KW1, KE2) forming a communication network and the local network (LAN).

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4. Arrangement according to one of the preceding claims, characterized in that the communication network (KN) is a digital or an analog communication network.

5. Arrangement according to claim 4, characterized in that the communication network (KN) is a line-bound and/or a radio communication network.

6. Arrangement according to one of the preceding claims, characterized in that an LAN identifier information (mac) serving for the identification of the data network interface (LANS) within the local data network (LAN) is stored in a non-volatile memory (PROM) arranged on the network switching unit (IGATE);
a logical network identifier information (ipag) for identifying the data network interface (LANS) and communication terminal devices connected to the local data network (LAN) is stored in a first sub-area (SP1) of a memory arranged on the network switching unit (IGATE); and
a communication network identifier information (rnw) for the identification of the network switching unit (IGATE) within the communication network (KN) is stored in a second sub-area (SP2) of the memory (SPF).

7. Arrangement according to claim 6, characterized in that the LAN identifier information (mac) is an interface-related LAN address whose ~~presence is standard;~~

the logical network identifier information (ipag) is an Internet protocol address whose presence is standard; and
the communication network identifier information (rnw) is a communication network telephone number.

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8. Arrangement according to claim 6 or 7, characterized in that further logical network identifier information (ipe1,...,ipek) of further local data networks are stored in a third sub-area (SP3) of the memory (SPF); and further communication network identifier information (rn1, ..., rnk) are stored in a fourth sub-area (SP4) of the memory (SPF), whereby a further logical network identifier information (ipe1, ..., ipek) and a further logical communication network identifier information (rn1, ..., rnk) are respectively allocated to one another.

9. Arrangement according to claim 8, characterized in that, for the communication of data packets via the communication network (KN), the network switching unit (IGATE) comprises a further conversion unit (KNK-R) for converting the logical network identifier information (ipe1, ..., ipek) into a communication network identifier information (rn1, ..., rnk).

10. Arrangement according to one of the preceding claims, characterized in that the network switching unit (IGATE) comprises a security unit (FWALL) for checking the routing information communicated to the network switching unit (IGATE) in view of an admissibility for a communication connection between the source and destination means identified by an appertaining routing information.

11. Arrangement according to one of the preceding claims, characterized in that the network switching unit (IGATE) comprises a protocol unit (PROT) for protected and/or transmission protocol-conforming communication of data packets ~~dependent on a selected transmission protocol.~~

12. Arrangement according to claim 3 through 11, characterized in that the network switching unit (IGATE) comprises an output unit (-SA) for the communication of stored messages to an external terminal device (KE2); and in that the messages are output in the form of an announcement and/or an optical display at the external terminal device (KE1).

13. Arrangement according to one of the preceding claims, characterized in that the network switching unit (IGATE) comprises at least one fictitious terminal port (FP), whereby a redirection to the fictitious terminal port (FP) is established for a call directed to an internal terminal device (KE4) in the framework of a 'teleworking' logon of an external terminal device (KE1) for the purpose of an assumption of the function of the internal terminal device (KE4).

14. Arrangement according to claim 13, characterized in that the network switching unit (IGATE) comprises at least one further fictitious terminal port (RP), whereby a connection setup between an external terminal device (KE1) and the further fictitious terminal port (RP) is provided in the framework of a call initiated from the external terminal device (KE1) to a further terminal device or from the further terminal device to the external terminal device (KE1).

15. Arrangement according to claim 13 or 14, characterized in that the further terminal device is an internal terminal device or an external terminal device.